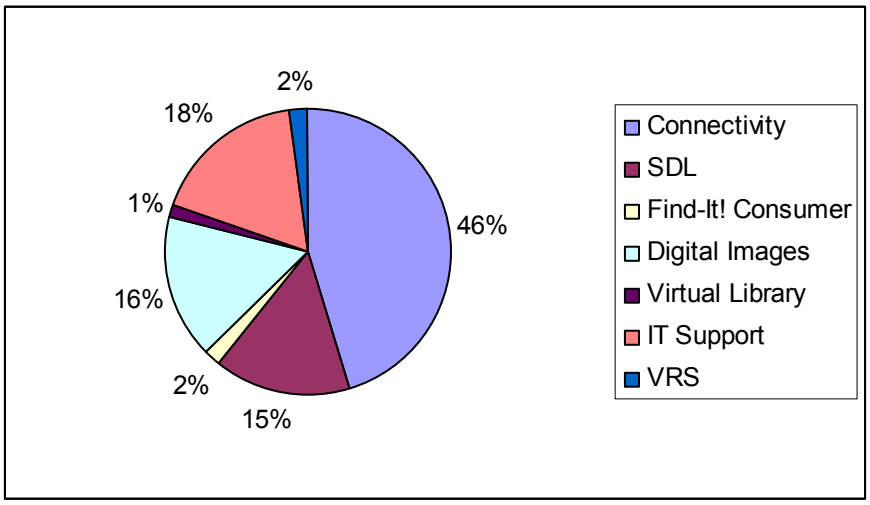
Goal 2: Internet Access to Digital Information Resources

Projects supporting Goal 2 have enabled libraries in the state to provide more access to online information by increasing local bandwidth, increasing the number of Internet terminals, negotiating deep discounts on online information sources, transferring local image and manuscript collections to digital format, and creating a portal to consumer information. Almost half of the funds (46%) were used to support a competitive grants program enabling individual libraries to increase Internet connectivity. A sixth of the funds (15%) were used to administer and subsidize the SDL project. In addition to providing or increasing access to a variety of databases for every citizen in the State, the SDL project is also the largest cooperative library project ever developed in the State, involving 181 different institutions of all types. A sixth of the funds (16%) were used to support efforts to digitize and share local collections of materials with statewide or national interest. Approximately one fifth of the funds (18%) were used to support information technology consulting and training efforts for individual libraries. A small portion of funds (3%) was used to support the Find-It! Consumer project and Virtual Library project, two significant efforts that delivered additional online resources to libraries. Another small portion (2%) was used to explore and support the creation of a cooperative statewide reference service.

Table 7: LSTA Funds Allocation for Projects under Goal 2, 1998-2001

	1998	1999	2000	2001	Total
Connectivity	$186,341	$1,635,864	$643,123		$2,465,328
Statewide Database Licensing	$5,735	$351,000	$150,000	$342,000	$848,735
Find-It! Consumer		$100,000			$100,000
Virtual Library		$75,000			$75,000
Digital Images		$176,000	$425,839	$300,000	$901,839
IT Consulting		$125,000	$117,000	$242,272	$484,272
IT Literacy		$75,000	$225,000	$150,000	$450,000
Virtual Reference Service (VRS)				$112,000	$112,000
Bibliographic Center for Research (BCR)				$7,500	$7,500
Total	$192,076	$2,537,864	$1,560,962	$1,153,772	$5,444,674

Figure 5: Internet Access to Resources, 1998-2001 - $5,444,674



Estimated Cost Savings of Statewide Database Licensing
For Libraries in Washington, 2001-2002

Depending on library type, online database vendors usually charge their customers a fee based on either the size of the library's service population or the number of full-time students being served. However, the price is not based on a simple rate per capita across all agencies. Each vendor uses sliding scales for estimating pricing. Each scale incorporates a base price, and then gives discounts for higher volume of users. As a result, smaller libraries pay considerably more per capita of their service population than large libraries pay. Smaller libraries of all types often find subscribing to online databases cost prohibitive since they must assume the burden of meeting the base price.

For example, the base price for the ProQuest base package of bibliographic databases plus access to the *New York Times* and all major Washington state newspapers has a base price of approximately $16,000, plus an additional cost per capita of service population. A small rural public library serving a community of 2,500 people that subscribes to this package as an individual institution would pay just under $16,500, or close to $6.50 per person. A public library in a community of 25,000 people (ten times larger) would pay just over $20,000, or close to $0.80 per person. The larger the service population, the lower the per capita cost since the base price is spread out over a larger number of people.

Consortial purchasing of database subscriptions enables smaller libraries to access information sources they would not be able to purchase on their own. Thus, small libraries receive perhaps the greatest benefit of obtaining affordable access, while larger libraries receive the benefit of even greater volume discounts then they would received individually. Statewide licensing results in the greatest discount possible since it is based on the highest volume of users. The savings to the vendor is realized through managing only one sales account rather than dealing with numerous individual customers.

Database vendors are constantly adjusting prices in response to demand and competition. Price lists and pricing formulas are considered proprietary information and are not shared with the general public. Institutional subscribers are given a customized price quote. Calculating a cost savings is complicated because vendors do not post a "list price" or "regular price" from which one could estimate a percentage discount. The prices used in the following analysis are calculated based on information shared by sales and account representatives from three vendors who currently offer a negotiated discount rate through the SDL program: ProQuest, Gale Group, and OCLC. Information on how the pricing structure for each vendor was calculated follows the report of overall savings.

Cost savings resulting from the SDL program for libraries in Washington is $8,316,990. When combining the total amount of both participant contributions and LSTA funds used to support Statewide Database Licensing (SDL), total savings is approximately three and a half times the total cost of the project. Since the total cost was partially subsidized by LSTA funds, participating libraries actually saved almost five times the amount they contributed to the project. In other words, for every dollar spent by an SDL participant, Washington libraries save five dollars.

To calculate price savings for libraries, estimates of "full price" were calculated for each library participating in the SDL program. The difference between the full price and the amount each SDL participant actually paid was identified as cost savings. The actual worksheets indicating estimates by institution are found in Appendix D.

Table 8: Estimated Cost Savings Resulting from SDL, 2001-2002

Library Type	LSTA Funds	SDL Participant Funds	Full Price	Estimated Savings
SDL Program Administration	$150,000			
ProQuest				
Public	$221,998	$221,998	$1,968,053	$1,746,055
Academic	$113,987	$113,987	$1,587,749	$1,473,762
Special	$10,577	$10,577	$384,000	$373,423
Tribal	$30,237	$30,237	$422,280	$392,043
School	$128,739	$128,739	$1,641,600	$1,512,861
Total ProQuest	**$505,538**	**$505,538**	**$6,003,682**	**$5,498,144**
Gale Group				
Public		$1,151,853	$3,907,249	$2,755,396
Total Gale	**$0**	**$1,151,853**	**$3,907,249**	**$2,755,396**
OCLC				
Public		$31,450	$60,000	$28,550
Academic		$8,475	$28,000	$19,525
Special		$4,625	$20,000	$15,375
Total OCLC	**$0**	**$44,550**	**$108,000**	**$63,450**
Grand Total	**$655,538**	**$1,701,941**	**$10,018,931**	**$8,316,990**

Estimate of Pricing for ProQuest

In response to a request for pricing information, ProQuest prepared quotes for nine libraries participating in the SDL program, five public (see Table 9) and four academic (see Table 10). The price quotes reflected the costs for access to the ProQuest base database package, the *New York Times*, and all major Washington state newspapers. From these sample quotes, it was possible to estimate the price for other libraries by plotting price as a linear function of service population (see Figures 6 and 7).

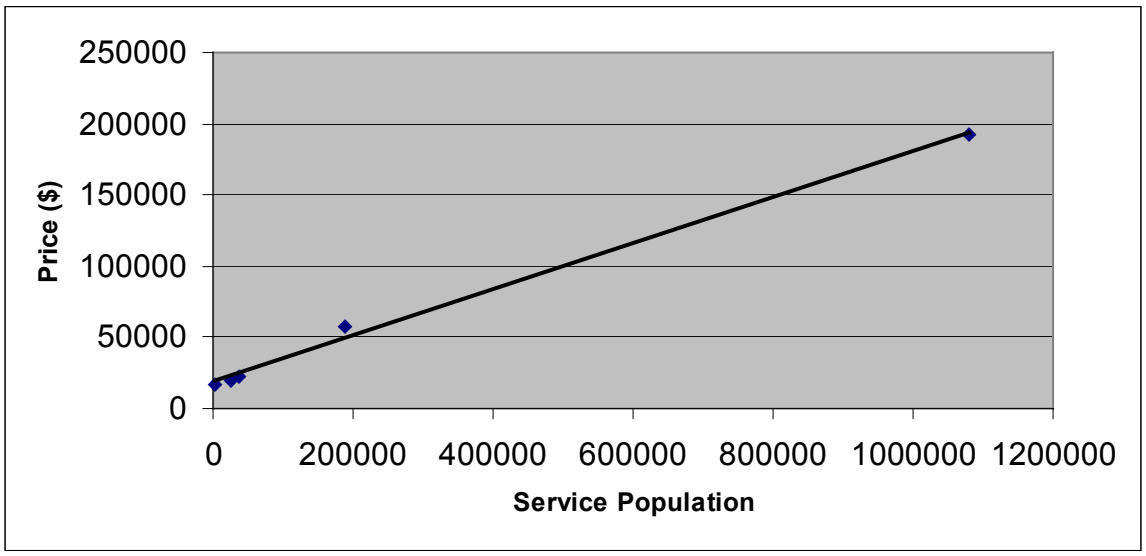
Table 9: ProQuest Price Quote for Public Libraries

Library	Population	Price
A	1,079,923	$191,790
B	188,300	$58,100
C	36,380	$22,580
D	25,070	$19,890
E	1,899	$16,440

From this data, the slope of the line representing price for public libraries was estimated to be:

Price = $16,000 + $0.162 (Population)

Figure 6: Slope Estimation of ProQuest Pricing for Public Libraries



Supporting documentation for the calculation of ProQuest pricing for public libraries is found in Table D.1 in the appendix.

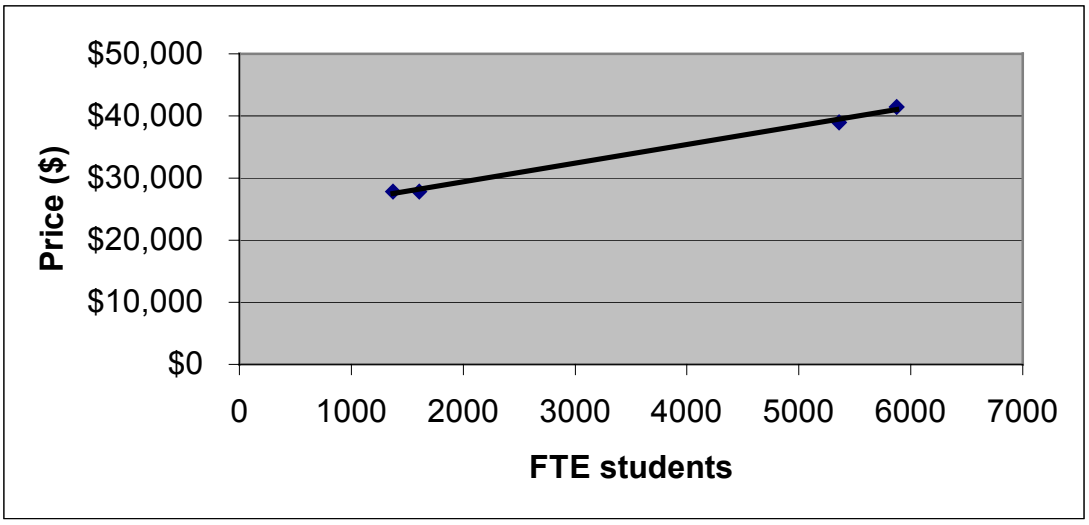
Table 10: ProQuest Price Quote for Academic Libraries

Library	FTE Students	Price
F	5,871	$41,410
G	5,360	$38,990
H	1,609	$27,880
I	1,372	$27,880

From this data, the slope of the line representing price for academic libraries was estimated to be:

Price = $23,500 + $3.00 (FTE students)

Figure 7: Slope Estimation of ProQuest Pricing for Academic Libraries



Supporting documentation for the calculation of ProQuest pricing for public libraries is found in Table D.2 in the appendix.

Tribal libraries are charged at the same rates as public libraries, and cost savings for tribal libraries were calculated using the same price estimates (see Table D.3).

Special libraries are also charged according to their service population, although identifying the size of the service population varies across different types of special libraries. For example, in hospital libraries the number of beds is sometimes used to estimate population. Obviously, the approach would not apply to any other type of special library. To avoid overestimation of cost savings, the full price for special libraries was limited to the base price of $16,000 paid by public libraries (see Table D.4).

For school libraries, ProQuest pricing is based on the number of schools rather than the number of students being served. A quote from the vendor indicates a price of $7,800 per school for any district in Washington that was purchasing access outside a consortial agreement. At this rate, the price for the total number of schools in Washington (approximately 1,600) would total almost $12,500,000, resulting in a 98% discount through statewide database licensing. This rate appears excessively inflated, but the vendor declined the opportunity to reconsider their price estimate.

The investigator contacted four school districts in California that he has visited in the past for personal or professional reasons. Of these four, only one, Clovis Unified School District (CUSD) in Fresno County, has recently entered into a nonconsortial agreement with ProQuest to provide online full-text databases for its students. The database package being purchased by CUSD does not include Washington state newspapers, but is otherwise similar to the package being purchased for school districts in Washington. According to Rob Darrow, Library Media Teacher and Online Learning Specialist, CUSD has 38 schools in the district and is being billed $39,000, an average rate of $1,026 per school. At this rate, the price quote for the total number of schools in Washington (approximately 1,600) would total almost $1,641,600, resulting in a 85% discount through statewide database licensing. This discount is comparable to both other vendor quotes and the quotes from ProQuest for public and academic libraries. Although it is likely to be a conservative underestimate, this rate has been used in the estimate of statewide cost savings presented in Table 8.

Estimate of Pricing for Gale Group

Out of all three vendors, Gale Group representatives provided the fewest details about the pricing structure for their products and would only share information on pricing in terms of percentage discounts. For public libraries serving populations under 200,000, the SDL rates constitute an 80% discount off the full price. For public libraries serving populations over 200,000, the SDL rates constitute a 65% discount off of full price. A full price for each participating library was calculated based on what each participant pays to the program and the applicable discount rate (see Table D.5).

Estimate of Pricing for OCLC

Prices for access to FirstSearch from OCLC are based on the number of simultaneous users a library wants to license. Therefore, the minimum number of simultaneous users an institution could purchase on its own is one. By cooperating in a consortial purchase, libraries can share the same license but split the total cost between all members. This makes it possible for libraries to buy a "half" or a "quarter" of a single simultaneous user license.

The full price for a single simultaneous user license from OCLC is $4,000. This amount is used to calculate full price for participating libraries, although some libraries would undoubtedly opt to purchase larger user licenses (see Table D.6).

Through the SDL program, Washington libraries are able to participate in a Pacific Northwest consortium, comprised of libraries in Washington, Oregon, Idaho, and Montana. The consortium currently purchases a license for 113 simultaneous users. The total number of users who may log in at any one time is shared across all libraries. For example any institution participating in the program may provide access for 1, 5, 10, 20, or (theoretically) 113 simultaneous users as long as the total number of users at all institutions does not exceed 113. In this way, libraries not only pay a fraction of the cost to purchase a single user license, but can benefit from greater accessibility. Washington libraries also benefit from being in the Pacific time zone, and will receive less competition from institutions located in the Mountain time zone that close earlier in the day.

Internet Connectivity

From 1998-2001, 59 competitive grants were awarded to libraries to increase the level of Internet access offered to citizens of the State. The libraries that received connectivity grants serve a combined population of 1,977,000 citizens, approximately a third of the total State population. The majority of these grants, in terms of both numbers and dollar amounts, were awarded to public and school libraries. A small number of academic, special, and tribal libraries also received awards (see Tables 11 and 12).

Table 11: Numbers of Connectivity Grant Awards by Library Type

	Public	Academic	School	Special & Tribal	Consortium	Total
Off the Shelf 1999	11			1		**12**
Tech. Enhancement 1999	8		7	1		**16**
Digital Libraries 1999	12	1	6	1	1	**21**
Connectivity 2000	8	1	2			**11**
Connectivity 2000 Plus	4	1	3	1		**9**
Total	**43**	**3**	**18**	**4**	**1**	**69**

Table 12: Amount of Connectivity Grant Awards by Library Type

	Public	Academic	School	Special & Tribal	Consortium	Total
Off the Shelf 1999	$53,200			$2,800		**$56,000**
Tech. Enhancement 1999	$349,958		$286,735	$42,273		**$678,966**
Digital Libraries 1999	$340,889	$24,620	$224,145	$35,250	$68,696	**$693,600**
Connectivity 2000	$132,151	$6,000	$58,223			**$196,374**
Connectivity 2000 Plus	$132,843	$11,444	$63,772	$11,941		**$220,000**
Total	**$1,009,041**	**$42,064**	**$632,875**	**$92,264**	**$68,696**	**$1,844,940**

On average, libraries that received LSTA funding were able to provide a substantially greater number of Internet terminals to the public (see Table 13). In addition, these libraries were able to increase their total number of Internet terminals by a larger average percentage. Even in cases where LSTA funds were not used specifically for purchasing terminals, the funds were used to build infrastructure that then made it easier for libraries to add terminals.

Library budget might also be a factor that contributes to the growth in the number of Internet terminals. To account for this factor, both libraries that received LSTA grants and those that did not were separated into two groups of "Large budget" and "Small budget" libraries. Large budgets libraries were defined as those institutions whose annual operating expenses exceed $3,000,000. All but two of the libraries in this group serve populations of over 100,000 people. All the libraries in the small budget group have annual operating expenses of less than $3,000,000 and serve populations of less than 100,000 people. When disaggregating institutions by budget in this manner, the same trend is exhibited where those libraries receiving LSTA

grants added more public access Internet terminals, regardless of whether the figure is expressed as either an actual number of terminals or as a percentage increase of the total number of terminals offered by the institution.

Table 13: Increase in Public Access Internet Terminals in Public Libraries, 1999-2000

	Number of Libraries	Average Budget	Avg. increase in # of terminals	Avg. increase in % of terminals
Libraries receiving LSTA Funding				
Total	26	$2,770,448	10.19	40%
Large Budget	7	$8,608,768	33.29	50%
Small Budget	19	$619,488	1.68	36%
Libraries not receiving LSTA Funding				
Total	36	$3,066,919	1.83	27%
Large Budget	5	$20,017,515	9.60	42%
Small Budget	31	$332,952	0.58	28%

Source: *Washington Public Library Statistics 2000* (preliminary data)
Note: The analysis is based on 62 out of 67 public library systems. Due to reporting errors, 5 library systems were dropped from the sample.

In 1998, providing at least one public access Internet terminal for every 15,000 persons in the state was established as an objective of the Connectivity Project. In the year 2000, this target has been far exceeded based on the number of access terminals in the public libraries alone. Currently, public libraries in Washington provide, on average, one public access Internet terminal for every 2,600 persons.

Table 14: Statewide Ratio of Persons per Public Access Internet Terminal

Washington population[a]	Internet terminals in 67 public libraries[b]	Number of persons per Internet terminal
5,894,121	2236	2,636

Sources: [a]*U.S Census*, [b]*Washington Public Library Statistics 2000* (preliminary data)

However, since Internet terminals are not evenly distributed throughout the state, examining the number of terminals available within each library system and comparing that to the respective service population for each institution achieves a more accurate estimate of service ratios.

On average, libraries that received LSTA funding for connectivity exhibited a greater need to reduce their service ratio than those libraries that did not receive funding. Even after receiving

grant support, these libraries were only able to improve the ratio an average of 21%, compared to 26% in libraries that did not receive funding.

Table 15: Ratio of Persons per Public Access Internet Terminals by Institution

	Number of Library Systems	Persons/ Terminal 1999	Persons/ Terminal 2000	Average Improvement
Libraries receiving LSTA Funding	26	4271	3368	21%
Libraries not receiving LSTA Funding	36	4051	2999	26%

The Internet service ratio was worse than the statewide ratio in 42% of libraries that received LSTA funding for connectivity. In comparison, the Internet service ratio was worse than the statewide ratio in only 36% of libraries that did not receive LSTA funding for connectivity. This evidence suggests the LSTA funds were awarded to libraries demonstrating the greatest need to improve their Internet service ratios.

Table 16: Percent of Public Libraries Surpassing the Statewide Ratio

	Number of Library Systems	Worse than statewide ratio	Better than statewide ratio
Libraries receiving LSTA Funding	26	11 (42%)	15 (58%)
Libraries not receiving LSTA Funding	36	13 (36%)	23 (64%)

While the majority of Connectivity grants were awarded to public libraries, school libraries also received awards to improve service and access for their students and staff.

- Five school districts (Chehalis, Morton, Mount Vernon, Naselle, and Newport) used grant funds to acquire and implement new library automation software that enabled Internet access to the catalog and other library resources so that both students and staff may search from school or home through an integrated information gateway.

- Four school districts (Central Kitsap, Liberty, South Kitsap, and White Pass) used grant funds to add workstations on campus to increase Internet access for students and staff.

- Four school districts (Columbia, Colville, La Center, and Wishkah Valley) used grant funds to establish high-speed Internet connections and purchase the necessary hardware and software to upgrade their existing networks.

Find It! Consumer

This highly publicized and lauded project provides access to consumer protection, safety, and health information to all Washington citizens. The project has resulted in the creation of a website and search engine (http://finditconsumer.wa.gov) which provides a portal to consumer protection and safety information. This portal provides a common search interface for over 100 consumer protection websites. The primary goals of the Find-It! Consumer project are stated as:

- To create a usable sustainable structure for sharing consumer information,
- To identify and coordinate access to a broad spectrum of consumer information,
- To reach people who might not have access to current information, and
- To increase the visibility and use of each partner agency's consumer information.

The site has been sponsored by six Washington state agencies and one non-profit association.

- Office of the Governor
- Attorney General
- Utilities and Transportation Commission
- Department of Social and Health Services
- Department of Ecology
- Liquor Control Board
- Young Adult Consumer Education Trust (YACET)

The website was favorably reviewed as a recommended site in *Internet Scout*, published by the Department of Computer Science at the University of Wisconsin. The review praised the website for its breadth of coverage, variety of search features, and currency of information.[1]

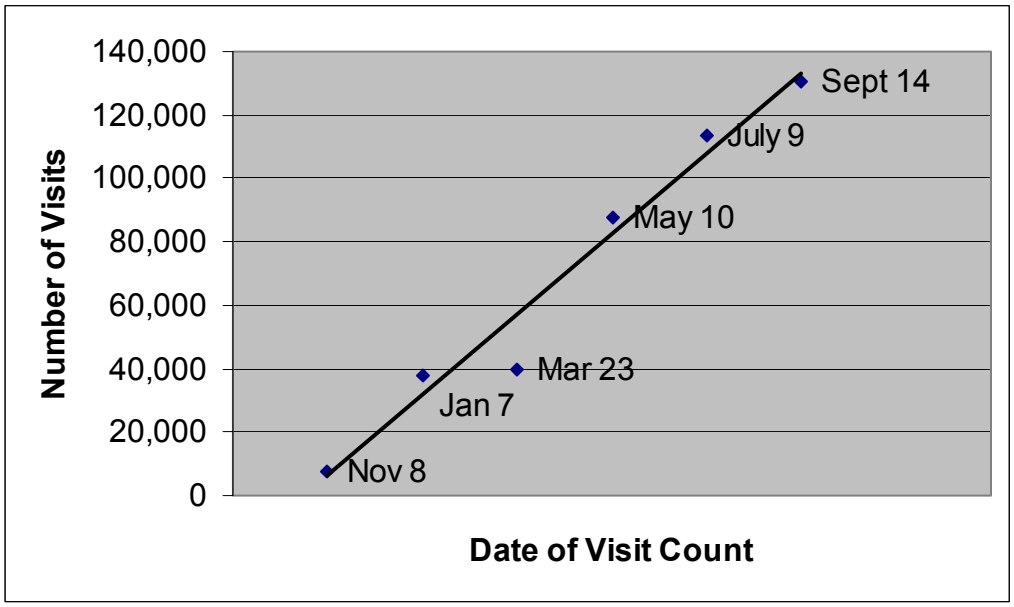
Usage of the website, expressed as the number of visits received, has grown steadily each month since its inception. Table 17 presents cumulative counts of the number of visits reported at approximate two-month intervals. Figure 8 graphically portrays the data in Table 17 to demonstrate a nearly constant rate of site usage of just over 12,000 visits per month. Given this steady rate of use, one can anticipate that the site will have received nearly 300,000 visits by the end of fiscal year 2002.

Table 17: Usage Statistics for the Find-It! Consumer Website, 2000-2001

Visit count reported on:	Cumulative Number of Visits
November 8, 2000	7,671
January 7, 2001	38,032
March 23, 2001	39,912
May 10, 2001	87,429
July 9, 2001	113,250
September 14, 2001	130,345

[1] Emily Missner, "Find-It! Consumer," *Internet Scout* 4 (25 January 2001), available online http://scout.cs.wisc.edu/report/bus-econ/2001/be-010125.html#15.

Figure 8: Usage Statistics for the Find-It! Consumer Website, 2000-2001



During the course of its first year, the website received an average of over 500 visits per day. However, although the overall monthly trend was near constant for the year, usage varied greatly from week to week (see Table 18). January and April witnessed brief, intensive periods of use. February, March, and September were extremely slow. Historical events such as the Nisqually/Tacoma earthquake or federal income tax deadlines may help explain such uneven use patterns, but further research is needed to determine actual causes.

Table 18: Average Daily Visits for the Find-It! Consumer Website, 2000-2001

Visit count reported on:	Cumulative Number of Visits	Number of Days between Counts	Average Number of Daily Visits
January 3	28,060		
January 7	38,032	4	2493
March 23	39,912	75	25
April 26	48,702	34	259
April 29	78,773	3	10024
May 10	87,429	11	787
May 18	90,953	8	441
May 25	94,057	7	443
June 13	104,826	19	567
July 9	113,250	26	324
August 14	126,318	36	363
August 24	129,291	10	297
September 14	130,345	21	50
	Number of Visits 1/3/01 to 9/14/01	**Total Number of Days**	**Average Daily Visits**
	130,345	254	513

Information Technology Consulting

As an example of the consulting services provided to libraries, a portion of the LSTA funds used to increase Internet access was used to provide general information technology consulting services for institutions that required additional expertise in technology planning or technical skills. Connectivity Project grants to individual library institutions have been supported by consulting through the Washington State Library in the areas of workstation support, network design, and technology plan development. Consulting services varied between providing technical assistance in network administration and troubleshooting, training local staff, guiding staff through the E-Rate application process, and a number of other topics pertaining to information technology.

This project specifically attempts to reduce the "digital divide" between the "information haves and have-nots" by providing technical assistance to small and medium sized community and rural libraries with staffs that lack a high degree of technical expertise. WSL information technology support enables such libraries to participate in the connectivity program and supply Internet access to their services populations despite lack of expertise or previous experience. When paired with opportunities for training in information technology, this results in increased benefits for their customers.

Over the course of a year, one consultant (Tamara Georgick) made 47 trips around the State to provide individualized assistance (see Table 19). On average, the consultant was in the field almost every week during that year. The majority of these trips were library site visits to single institutions. The consultant also attended several conferences and planning meetings where she delivered presentations and met with staff from numerous institutions. In the Spring of the same year, the consultant's assistant (Evelyn Lindberg) made 8 eight site visits to libraries to provide direct technical assistance. This record of activity does not include the amount of effort spent responding to the needs of libraries via telephone or e-mail.

Table 19: Information Technology Consulting Activities, 2000-2001 (47 Events)

	Site Visit	Conference	Meeting
Technical Assistance	10		
Training	3		4
E-Rate	10	1	3
E-Books	2	2	1
Outreach		5	2
K - 20	11		1
Planning			2

Note: On many occasions, consulting on multiple issues was provided for each event. Thus, the number of topics indicated in the table exceeds the number of total events.

Digital Images

The Digital Images project has provided education and training of library staff in best practices for creating and sharing digital collections of locally held analog materials. In 2001, two 3-day workshops were held and a best practices website was created. In an early phase, the project supported a small number of pilot projects to experiment with particular methodologies and problems in digitization. Two subsequent rounds for competitive grants supported a larger number of projects in 2000 and 2001. These grants were awards to specific institutions to transfer image and document collections into digital format and make them available to all institutions and citizens online.

Virtual Library

This project aims to create a Virtual Library Service Center to provide the following services to LSTA eligible libraries, especially those with limited access, resources, or staff expertise. Services and resources that are provided included:

- Website hosting
- Website development tool kit
- Web accessible database development hosting and tool set
- Mailing list services
- Hosting of web accessible customer service applications
- Access to the Libraries of Washington State Information System
- Hosting of Washington Libraries On-Line